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(12) (19) (CA) **Demande-Application**

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(54) **CONVERTISSEUR CATALYTIQUE POUR CHAMBRE DE COMBUSTION**

(54) **COMBUSTION CHAMBER CATALYTIC CONVERTER**

(57) The COMBUSTION CHAMBER CATALYTIC CONVERTER is a catalytic converter built into the engine. This invention uses platinum(Pt), the primary catalyst used in conventional catalytic converters is anodized on top of the piston, inside of the combustion chamber carved into the bottom of the heads and the bottom of the valve if necessary. This catalyzes some of the air/fuel mixture that would normally be burned off in the convention catalytic converter where in the engine where it can do useful work to run the vehicle. It is designed to do exactly as the GASAVER, produced by the national fuel saver company. However this invention is intended to be built into engines of production vehicles that run on gasoline as a primary catalytic conversion stage. It only uses one catalyst Pt.

Abstract

The COMBUSTION CHAMBER CATALYTIC CONVERTER is a catalytic converter built into the engine. This invention uses platinum(Pt), the primary catalyst used in conventional catalytic converters is anodized on top of the piston, inside of the combustion chamber carved into the bottom of the heads and the bottom of the valve if necessary. This catalyzes some of the air/fuel mixture that would normally be burned off in the convention catalytic converter where in the engine where it can do useful work to run the vehicle. It is designed to do exactly as the GASAVER, produced by the national fuel saver company. However this invention is intended to be built into engines of production vehicles that run on gasoline as a primary catalytic conversion stage. It only uses one catalyst Pt.

Specifications

The INTERNAL COMBUSTION ENGINE is a transducer that converts thermal energy into mechanical energy. In an internal combustion engine, the NET EFFICIENCY of the engine is determined by the THERMAL EFFICIENCY, and the MECHANICAL EFFICIENCY. The NET EFFICIENCY is determined by how much fuel is needed to produce 1hp. The THERMAL EFFICIENCY is determined by how much of the fuels' chemical potential energy is converted into heat minus the sum of heat rejected in the exhaust and heat lost and carried away by the cooling system. The MECHANICAL EFFICIENCY is determined by how much of the heat used by the engine is converted into mechanical energy after friction losses.

Heat in	=	(mass in grams x potential energy/g) x (percentage of fuel burned/100) - (heat rejected + heat lost)
Power out	=	heat in x efficiency = heat in - friction losses

This invention makes use of energy that normally would be wasted as it is burned of in the catalytic converter located in the exhaust, allowing this device to make the engine burn a higher percentage of the fuel in the engine. As this patent is not for any specific engine but gasoline engines in general, the thickness of plating will depends much on the engine in question. For example, an engine with a redline of 4000rpm will not need plating as strongly as an engine with a redline of 8000rpm.

Notes:

This invention is intended to be as transparent as possible. There should be no need to alter the shape of any parts in the engine. The standard air fuel mixture of 14.7:1 can be used. As far as the computer knows, the car is going down a hill.

Claims

1. The engine will be smoother.
2. Improved driveability.
3. The engine will be more responsive.
4. The engine will gain more torque across the power band, more at the lower end and less at the top end.
5. The engine will last longer because there will be fewer bi products such as carbon and unburned gasoline to contaminate pistons, heads, cylinders and lubrication system and destroy rubber gaskets, o-ring and oil. Air and fuel filters will last longer because of the reduction of air and fuel that will have to be passed through them.
6. There will be about a 20% to 30% increase in fuel economy depending on the engine and increased range.
7. It will be impossible to remove this catalytic converter without spending a significant amount of time or money.
8. The engine will be able to tolerate higher compression ratios without requiring higher octane fuel. This will not be the case when the engine is still cold, however, the computer will likely retard the ignition timing advance to about 14-17 degrees which will prevent knocking during cold starts.
9. Under hood temperatures will be reduced by eliminating much of the heat produced by catalytic conversion.